STATE OF SOUTH CAROLINA)

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

Application of

Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs.

COVER SHEET

DOCKET NUMBER: 2007-358-E

(Please type or print)

Submitted by: Bonnie D. Shealy **SC Bar Number:** 11125

Address: Robinson, McFadden & Moore, P.C.
PO Box 944
Columbia, SC 29202

Telephone: (803) 779-8900

Fax: (803) 252-0724

Other:

Email: bshealy@robinsonlaw.com

NOTE: The cover sheet and information contained herein neither replaces nor supplements the filing and service of pleadings or other papers as required by law. This form is required for use by the Public Service Commission of South Carolina for the purpose of docketing and must be filled out completely.

DOCKETING INFORMATION (Check all that apply)

☐ **Emergency Relief demanded in petition** ☐ **Request for item to be placed on Commission's Agenda expeditiously**

☒ **Other:**

INDUSTRY (Check one)

- ☒ Electric
- ☐ Electric/Gas
- ☐ Electric/Telecommunications
- ☐ Electric/Water
- ☐ Electric/Water/Telecom.
- ☐ Electric/Water/Sewer
- ☐ Gas
- ☐ Railroad
- ☐ Sewer
- ☐ Telecommunications
- ☐ Transportation
- ☐ Water
- ☐ Water/Sewer
- ☐ Administrative Matter
- ☐ Other:

NATURE OF ACTION (Check all that apply)

- ☐ Affidavit
- ☐ Agreement
- ☐ Answer
- ☐ Appellate Review
- ☐ Application
- ☐ Brief
- ☐ Certificate
- ☐ Comments
- ☐ Complaint
- ☐ Consent Order
- ☐ Discovery
- ☐ Exhibit
- ☐ Expedited Consideration
- ☐ Interconnection Agreement
- ☐ Interconnection Amendment
- ☐ Late-Filed Exhibit
- ☐ Letter
- ☐ Memorandum
- ☒ Motion
- ☐ Objection
- ☐ Petition
- ☐ Petition for Reconsideration
- ☐ Petition for Rulemaking
- ☐ Petition for Rule to Show Cause
- ☐ Petition to Intervene
- ☐ Petition to Intervene Out of Time
- ☐ Prefiled Testimony
- ☐ Promotion
- ☐ Proposed Order
- ☐ Protest
- ☐ Publisher's Affidavit
- ☐ Report
- ☐ Request
- ☐ Request for Certificatio
- ☐ Request for Investigatior
- ☐ Resale Agreement
- ☐ Resale Amendment
- ☐ Reservation Letter
- ☐ Response
- ☐ Response to Discovery
- ☐ Return to Petition
- ☐ Stipulation
- ☐ Subpoena
- ☐ Tariff
- ☒ Other: Testimony of Theodore E. Schultz

BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2007-358-E

In re: Application of Duke Energy Carolinas, LLC For Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs	)	**TESTIMONY OF THEODORE E. SCHULTZ FOR DUKE ENERGY CAROLINAS**

This document is an exact duplicate, with the exception of the form of the signature, of the e-filed copy submitted to the Commission in accordance with its electronic filing instructions.

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME, ADDRESS, AND POSITION WITH DUKE ENERGY.

A. My name is Theodore E. Schultz, and my business address is 526 South Church Street, Charlotte, North Carolina. I am Vice President – Energy Efficiency for Duke Energy Corporation the parent of Duke Energy Carolinas, LLC ("Duke Energy Carolinas" or the "Company") and am responsible for leading energy efficiency[1] initiatives across all retail markets served by Duke Energy, including Duke Energy Carolinas' service territory. I am also responsible for Duke Energy's customer strategy and the development and implementation of new products and services for the retail market.

Q. PLEASE STATE BRIEFLY YOUR EDUCATION, BACKGROUND AND PROFESSIONAL AFFILIATIONS.

A. I graduated from Syracuse University in 1987 with a Master's Degree in Business Administration. I also earned a Bachelor of Science Degree in Business Administration from Albany University in Albany, New York.

Q. PLEASE DESCRIBE YOUR BUSINESS BACKGROUND AND EXPERIENCE.

A. Prior to joining Duke Energy, I worked for Energy East (New York State Electric and Gas) from 1983 to 1997. While at Energy East, I was promoted to various positions of increasing responsibility in the areas of planning and information

[1] The term "energy efficiency," as used in this testimony, includes both energy efficiency/conservation and demand response measures.

technology, and was director of information technology when I left to join Duke Energy. I joined Duke Energy in 1997 as manager of strategic business development and became a director in our eBusiness area in 1999. In 2002, I joined Duke Power's customer sales, service and marketing group becoming Vice President – Marketing in 2003 and Vice President – Large Business Customers in 2004. Following the merger with Cinergy in 2006, I was named Vice President – Customer Strategy and Planning before being named to my current position in October 2006.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to: (1) provide a brief historical overview of Duke Energy Carolinas' demand side management ("DSM") and energy efficiency programs; (2) review the challenges associated with achieving energy efficiency; (3) describe how the Company's "save-a-watt" approach to energy efficiency contained in the Application of Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including and Energy Efficiency Rider and Portfolio of Energy Efficiency Programs (the "Application") provides significantly more value to customers than traditional energy efficiency programs; (4) explain how the Company developed its portfolio of energy efficiency programs; (4) provide a general description of the energy efficiency programs proposed in the Company's Application; (5) identify the existing energy efficiency programs the Company seeks to cancel and replace with new, improved energy efficiency programs; (6) discuss the Company's plans for developing future programs; (7) provide an estimate of the capacity and energy savings the Company expects the Energy

Efficiency Plan to create, as well as the projected customer savings; and (8) discuss why the Company's Energy Efficiency Plan is in the public interest.

II. HISTORICAL ENERGY EFFICIENCY PROGRAMS

Q. HOW HAS DUKE ENERGY CAROLINAS HISTORICALLY PURSUED ENERGY EFFICIENCY AND CONSERVATION?

A. Duke Energy Carolinas has a long history of promoting energy efficiency. The Company implemented the first non-residential and residential DSM programs almost 30 years ago. Rider IS (non-residential interruptible service), Rider SG (non-residential standby generator control), and Rider LC (residential load control) have been an important component of Duke Energy Carolinas' resource mix for over 20 years and have remained virtually unchanged.

In the early 1990s, Duke Energy Carolinas also implemented a number of energy efficiency programs. However, during the mid-90s, in the face of adequate base load generation and the prospect of retail competition, Duke Energy Carolinas, along with many other utilities across the region, phased out many of its energy efficiency programs. Today, rising customer demand, rising energy costs, and increased environmental concerns coupled with utilities' need for new base load generation, has lead to renewed interest in all types of energy efficiency programs. In particular, Global Climate Change and coal-fired generation concerns demand that a new approach to energy efficiency be developed.

Q. WHAT ARE DUKE ENERGY CAROLINAS' CURRENT ENERGY EFFICIENCY PROGRAMS?

A. Duke Energy Carolinas' current energy efficiency programs are:

- Residential Energy Star® rate
- Existing Residential Housing Program
- Energy Efficiency Video for Residential Customers
- Large Business Customer Energy Efficiency Assessments
- Large Business Customer Energy Efficiency Tools
- Educational Web Resources
- On-line Home Energy Audit

Q. WHAT ARE THE CHALLENGES THAT HAVE LIMITED ADOPTION OF ADDITIONAL ENERGY EFFICIENCY PROGRAMS UNDER THE CURRENT REGULATORY MODEL?

A. Many reports indicate that it should be cost-effective for consumers to aggressively pursue energy efficiency on their own, but this is clearly not happening. The Market Potential Study conducted by Duke Energy Carolinas identified more than 800,000,000 kWhs of energy efficiency potential. The Market Potential Study is described in more detail in Company Witness Stevie's testimony.

Duke Energy Carolinas conducted customer research to determine why our customers were not taking advantage of existing energy efficiency opportunities. Our research identified the following impediments:

- Most customers do not have the data, time or desire to evaluate efficiency options. A customer quote from one of our focus groups summarizes this position, "Energy works for me, I don't work for energy." Energy generally is perceived by customers to be an abundant, low-cost, readily available commodity. The cost of energy is a small portion of most household and business budgets. In addition, other lifestyle or competitive

issues typically take priority over customers' considerations to conserve energy. Instead, many customers believe they already have adopted simple, responsible behaviors, and they perceive energy efficiency alternatives as higher-priced, complicated, or unwelcome interferences with their lifestyle or business.

- Many customers lack the capital to invest in energy efficiency. This leads to decisions based on a lower initial capital cost or prolonging a replacement decision as long as possible.
- Research shows most customers are not aware of the positive impact their individual behaviors can have on the welfare of others on such issues as climate change or national energy independence. There are signs of an emerging social consciousness with regard to energy, but few customers are currently willing to pay more to participate.

These challenges serve to limit customer participation in energy efficiency programs, regardless of who develops, markets, or administers the programs. If we are to achieve widespread adoption of all cost-effective energy efficiency, these challenges must be addressed.

Q. DID THE COMPANY'S RESEARCH IDENTIFY ANY OPPORTUNITIES TO OVERCOME THESE CHALLENGES?

A. Yes. Customers in our focus groups voiced a willingness to act when there is clear leadership and a compelling value proposition for them. We have identified the following customer prerequisites for participation:

- Productivity and/or lifestyle cannot be compromised

- Minimal up front investment
- Quick and material pay-off
- Problem-free solution that is simple to understand, easy to act upon, convenient - one step solution and can be fulfilled immediately

Customers also viewed energy efficiency as an important aspect of their relationship with Duke Energy. They view Duke Energy as a trusted partner and advisor for electricity-related advice and programs. This is consistent with national customer satisfaction benchmark studies conducted by J. D. Power and Associates for the utility industry. J. D. Power's research suggests that having the ability to better manage energy costs is an important attribute of customer satisfaction. In fact, energy efficiency efforts impact almost a third of the Company's overall residential customer satisfaction results, demonstrating the importance customers place on it relative to their utility relationship.

III. THE SAVE-A-WATT APPROACH

Q. PLEASE DESCRIBE THE COMPANY'S SAVE-A-WATT APPROACH.

A. While simple in concept, the Company's proposed save-a-watt approach to energy efficiency fundamentally changes both the way energy efficiency is perceived and the role of the Company in achieving such energy efficiency. The goal of the Company's new energy efficiency approach is to achieve all cost-effective reductions in electricity in a way that enhances customer satisfaction and ensures the utility is financially whole relative to the generation alternative.

Initially, the Company proposes to focus on offering customers programs that will help them address rising energy prices in the near term. These offers are

being developed with direct input from Duke Energy Carolinas' customers and will use new channels that are more convenient for customers and that also provide value from the customers' perspective. Ultimately, as part of its Energy Efficiency Plan, the Company intends to build energy efficiency into its standard service offerings to make it part of the customer's everyday life without having to sacrifice the comfort and convenience of electricity use.

Q. HOW DOES THE COMPANY PROPOSE TO BE COMPENSATED FOR ENERGY EFFICIENCY RESULTS UNDER SAVE-A-WATT?

A. In addition to developing new programs that the Company believes will be more effective in reducing energy consumption and demand, Duke Energy Carolinas is proposing a different approach to the regulatory treatment of these programs. To compensate and encourage the Company to become a leader in producing capacity and energy by "saving" watts, Duke Energy Carolinas requests that it be compensated through the amortization of and a return on 90% of the costs avoided by saving watts. Not only will this produce savings for customers, but customers will pay only for capacity and energy savings actually realized by customers. In other words, customers will not pay for energy savings that the Company does not achieve. From this revenue stream, the Company must pay for marketing, administration, program incentives and measurement and verification costs.

Q. HOW WILL THE COSTS OF THE COMPANY'S ENERGY EFFICIENCY PROGRAMS BE ALLOCATED?

A. The Company has proposed that residential customers pay for residential programs and non-residential customers pay for non-residential programs.

Q. WHAT ARE THE DIFFERENCES BETWEEN SAVE-A-WATT AND OTHER REGULATORY MODELS FOR ENERGY EFFICIENCY?

A. The single biggest difference between save-a-watt and other regulatory models for energy efficiency is that the utility only gets paid for the energy efficiency results it delivers, *i.e.*, the energy efficiency impacts (kWh and kW) realized by customers as verified by an independent party. Customers never pay for resources that are not delivered and those that are delivered are more reliable resources in the Integrated Resource Planning ("IRP") process.

Most approaches to energy efficiency pay utilities, or other administrators, for their marketing, administration, program incentives and measurement and verification expenses regardless of the energy efficiency impacts they achieve. As a result, the risk of not achieving the energy efficiency impacts and the risk of achieving them at a higher unit cost than planned are assumed by the customer. In contrast, the save-a-watt regulatory model shifts this burden to the utility.

Some regulatory approaches have introduced penalties for not meeting minimum achievement levels in order to shift risk to the utility. A much simpler approach is to simply pay utilities for energy efficiency impacts realized by customers and verified by an independent party. The external verification helps ensure the utility is producing quality resources that it can depend on to meet customer demand, even as this demand continues to grow.

Another important difference in the save-a-watt approach is that it treats energy efficiency just like supply-side resources. In other words, if the energy efficiency resource produces results over a 10-year useful life, the utility is paid for the results over the 10-year period. This requires the utility to be accountable for the results over the resource's useful life in a manner similar to supply-side resources.

Q. ARE THERE ANY OTHER DIFFERENCES BETWEEN SAVE-A-WATT AND OTHER ENERGY EFFICIENCY APPROACHES?

A. There is one other significant difference. Past experience has shown traditional energy efficiency approaches do not provide the needed flexibility to quickly adjust product offerings, incentives, and marketing focus as customer needs, markets, and technologies change. Customers should not be turned away from participating in an energy efficiency program based on pre-set limits to program funding and participation if we are truly focused on delivering all cost-effective energy efficiency results.

Q. HOW DOES SAVE-A-WATT CREATE VALUE FOR CUSTOMERS?

A. In order to realize strong gains in energy efficiency program participation, Duke Energy Carolinas believes it must focus on providing value to customers. Continuing to develop and deliver energy efficiency programs as the Company has done in the past will likely result in future energy efficiency program participation and watts saved that is far below the potential identified in the Market Potential Study. The objective of the save-a-watt approach is to create

value for customers and an incentive for the utility to achieve all cost-effective energy efficiency.

The save-a-watt concept of getting paid based solely on results delivered encourages utilities to create real value for customers and get rewarded for the value delivered. It requires a deep understanding of customers' needs and price sensitivity to deliver energy efficiency programs that customers will value.[2] Because the utility is paid based on verified watts saved, the save-a-watt regulatory model provides the necessary incentive to the utility to produce quality energy efficiency programs that can be incorporated as a reliable resource in the utility's IRP.

However, the Company believes certain types of energy efficiency impacts are not reliable enough to be considered in the IRP. For example, turning back a thermostat is an easy way to conserve energy, but is not a customer action the Company can depend upon. For this reason, the Company's Energy Efficiency Plan does not include these types of energy efficiency programs; however, the Company will continue to provide education on ways customers can conserve energy.

Q. ARE UTILITIES UNIQUELY POSITIONED TO PURSUE AND ACHIEVE ENERGY EFFICIENCY?

A. Yes. Duke Energy Carolinas believes utilities have the expertise, infrastructure, and customer relationships to be leaders in delivering cost-effective energy efficiency. Further, as I stated earlier, customers see energy efficiency as an

[2] The requirement to develop a keen understanding of customer behavior and preferences will make marketing, *i.e.*, customer research and analysis, a more significant cost for the Company under the save-a-watt approach.

important part of the services provided by Duke Energy Carolinas and expect the Company to take the lead in providing this service.

Q. WHAT IS THE COMPANY SEEKING THE COMMISSION TO APPROVE?

A. Duke Energy Carolinas requests that the Commission approve the energy efficiency rider ("Rider EE (SC)" of the "Rider") set forth as Exhibit No. 1 to Mr. Farmer's testimony, which will compensate the Company for delivering verified energy efficiency results. In particular, the Company seeks approval for the first year Rider EE (SC) charge (including the appropriate revenue related taxes) of $0.001233 per kWh for residential customers and $0.001019 per kWh for non-residential customers. Under the Company's Energy Efficiency Plan, the Commission will adjust Rider EE (SC) annually, based on updated projections of results, including projected incremental avoided costs, and actual results achieved by the Company. This process will ensure that customers only pay for capacity and energy savings actually realized by customers and the Company.

Additionally, the Company is requesting that the Commission approve implementation of the energy efficiency programs contained in the Company's Application, as further described in my testimony and exhibits, including the projected load impacts and program measure incentive levels.

IV. DEVELOPMENT OF NEW ENERGY EFFICIENCY PORTFOLIO

Q. PLEASE DESCRIBE THE PROCESS BY WHICH THE COMPANY DEVELOPED THE NEW ENERGY EFFICIENCY PROGRAMS CONTAINED IN ITS APPLICATION.

A. The Company developed its portfolio of programs in collaboration with interested stakeholders participating in the Company's South Carolina Energy Efficiency Collaborative Group ("Collaborative"). The Collaborative includes a diverse group of customers, state agencies, environmental groups, and other stakeholders. Participants in the Collaborative include The South Carolina Office of Regulatory Staff, The Timken Corporation, Sierra Club, Environmental Edge Consulting, The University of South Carolina Upstate, Greenville County Schools, and the South Carolina State Energy Office. Advanced Energy Corporation moderates each meeting of the Collaborative. Advanced Energy Corporation is a non-profit national resource based in North Carolina that works with utilities to develop programs and services to benefit their customers.

The Company employed a three-step process to determine the programs to be included in the proposed portfolio. First, it compiled a list of energy efficiency programs already offered and tested by Duke Energy Carolinas' and its affiliate utility operating companies. Implementing programs already offered by the Company's affiliates is likely to result in lower costs and operational efficiency through shared administration and best practices. Second, the Company solicited new program ideas from all members of the Collaborative and solicited direct input from South Carolina customers through primary research. Third, the Company refined these ideas, applying multiple cost-effectiveness analyses to evaluate all current or proposed programs. Programs deemed cost-effective were incorporated into a master list of program ideas, reviewed and agreed to by the

Collaborative members, and finally, consolidated into the list of energy efficiency programs included in the portfolio.

V. ENERGY EFFICIENCY PROGRAM DESCRIPTIONS

Q. PLEASE GENERALLY DESCRIBE THE PORTFOLIO OF ENERGY EFFICENCY PROGRAMS THAT DUKE ENERGY CAROLINAS HAS REQUESTED THAT THE COMMISSION APPROVE.

A. The programs are designed to greatly expand the reach of energy efficiency in the Company's South Carolina service territory by providing more options for customers to control their energy usage and manage their bills. The programs also provide customers with the opportunity to lower their environmental footprint through direct participation in energy efficiency. Duke Energy Carolinas' proposal includes the following mix of conservation and demand-response programs:

RESIDENTIAL CUSTOMER PROGRAMS

- Residential Energy Assessments
- Smart $aver® for Residential Customers
- Low Income Services
- Energy Efficiency Education Program for Schools
- Power Manager

NON-RESIDENTIAL CUSTOMER PROGRAMS

- Non-Residential Energy Assessments
- Smart $aver® for Non-Residential Customers
- PowerShare®

In addition, research programs are included to begin pilots with customers to determine the potential impacts of these new programs.

RESEARCH PILOT PROGRAMS

- Efficiency Savings Plan
- Advanced Power Manager Program

A more detailed description of each program is provided in the attached Schultz Exhibit 1, but following is a general description:

Residential Energy Assessments are designed to help residential customers identify opportunities to use energy more efficiently through mail-in analysis, on-line analysis, and on-site energy audit. Participating customers will receive either an energy efficiency kit or compact fluorescent light bulbs at the time of the audit to begin their energy savings immediately.

Non-Residential Energy Assessments are designed to help commercial and industrial customers identify opportunities to use energy more efficiently through on-line analysis, telephone interviews, and on-site energy audits.

Smart $aver® will provide residential customers with incentives to install more energy-efficient, ENERGY STAR® certified equipment, such as compact fluorescent light bulbs and high-efficiency air conditioners and heat pumps. The commercial and industrial customer program will provide incentives to install high-efficiency lighting, heating, ventilation, and air conditioning equipment, motors, and pumps.

Low Income Services will assist low income residential customers with energy efficiency measures using kits or through assistance in purchasing equipment and

weatherizing homes.

Power Manager will enable residential customers to receive a monthly credit from July to October in exchange for allowing Duke Energy to cycle their central air conditioning systems in times of peak power demand and to interrupt the central air conditioning when the Company has capacity constraints.

PowerShare® will enable nonresidential customers to receive a credit on their bills in exchange for reducing their electric use in times of peak power demand or unexpected capacity constraints.

Efficiency Savings Plan is a pilot program to evaluate allowing residential, commercial, and industrial customers to install energy efficiency products with no up-front payment, allowing customers to save money by reducing their energy use. Customer would pay for these products through an added charge to their power bill.

Advanced Power Manager is a pilot program to develop a new standard offer that makes energy efficiency a part of customers everyday lives without sacrificing their comfort, convenience or productivity. This program will evaluate new technologies to study the feasibility of an energy management system that enables the new standard offer. Additionally, this program will test load aggregation concepts for non-residential customers to achieve greater impacts and customer benefits.

However, these programs are just the beginning. The save-a-watt approach provides Duke Energy Carolinas the incentive to pursue all cost-effective energy efficiency initiatives. It is the Company's goal to supplement

these programs in future years with new product offerings that further expand the potential cost-effective energy efficiency impacts that can be achieved.

Q. WHY DOES DUKE ENERGY CAROLINAS' ENERGY EFFICIENCY PLAN PROPOSE CANCELLING EXISTING DEMAND-RESPONSE PROGRAMS AND REPLACING THEM WITH NEW DEMAND-RESPONSE PROGRAMS?

A. As previously stated, Duke Energy Carolinas' current programs are more than 20 years old and have been virtually unchanged in more than 10 years. Based on customer research and the experience developed from operating these programs, the Company believes customer adoption, satisfaction, and acceptance of demand-response programs can be improved. For example, residential customers traditionally have been unhappy when the Company uses its air conditioning load control system because it temporarily can suspend the customer's usage of the unit during very warm weather. To remedy this issue, the Company proposes to introduce and expand load reduction mechanisms that limit the temperature impact a customer might experience. Additionally, the Company is proposing to standardize its residential load control program across all five states, reducing administrative costs and allowing the Company to utilize best practices to uniformly refine the program.

Non-residential customers also have expressed a desire for a viable voluntary curtailment option, an increase in credits paid for firm curtailment, and some standardization between curtailment programs for standby emergency generators and firm interruptible load. The Company has addressed each of these

issues in the new portfolio of proposed programs. In order for a smooth transition, the monthly capacity credits for mandatory curtailments are the same as the old interruptible service program for the first two years, but energy credits are now offered when a customer sheds load as part of a mandatory curtailment, raising the effective overall credits paid to an interruptible load customer who migrates to the new program. Also, a new day-ahead voluntary curtailment program is also proposed, allowing customers to bid quantities of load they are willing to shed in return for curtailment credits. This program would be open, as an additional option, to customers on the mandatory curtailment program or new customers who traditionally have not participated in any form of load reduction program. Lastly, the Company is addressing concerns of standby generation customers by standardizing the credits paid to customers for mandatory curtailment regardless of whether the customers have shifted load to standby emergency generators.

These new residential and non-residential demand-response programs should increase customer satisfaction and adoption over the old programs. Therefore, in connection with the implementation of the proposed portfolio of energy efficiency programs, the Company requests approval to close certain existing demand response riders to new customers and to transition customers to similar programs included in the proposed portfolio with appropriate notice, after which the programs will be cancelled. The affected riders are: Interruptible Service Rider (Rider IS), Standby Generation Control Rider (Rider SG), and Residential Load Control Rider (Rider LC).

Q. WHICH EXISTING EFFICIENCY PROGRAMS DOES DUKE ENERGY CAROLINAS' PROPOSE TO CANCEL AND REPLACE AS PART OF ITS NEW ENERGY EFFICIENCY PLAN?

A. In connection with the implementation of the proposed portfolio of energy efficiency programs, the Company requests approval to cancel Riders IS, SG, and LC, as well as the Existing Residential Housing Program (Leaf 142). Riders IS and SG will be replaced in the new portfolio with PowerShare®. Rider LC will be replaced in the new portfolio with Power Manager. The Existing Residential Housing Program (Leaf 142) is being replaced by the Smart $aver® Program, which offers customers incentives and can be administered centrally across all five states in which Duke Energy operates. No changes are proposed at this time for the Residential Energy Star rate. Customers will be notified about the change in product offerings and may sign up for any new offerings as they are available.

Q. WHY IS FLEXIBILITY IN PROGRAM OFFERINGS AN IMPORTANT PART OF DUKE ENERGY CAROLINA'S ENERGY EFFICIENCY PLAN?

A. Duke Energy Carolinas needs to be able to make program changes and reallocate resources among programs over the lives of the programs to optimize results for both customers and the Company. This flexibility is crucial to the success of the undertaking, particularly given the innovative nature of the effort and the need to make timely and responsive changes as the Company gains experience working with customers in the energy efficiency markets.

Duke Energy Carolinas proposes to review and adjust programs and

overall portfolio funding levels on an annual basis. Any changes will be based on the performance of the programs, market conditions, economics, and consumer demand. The Company will report annually to the Commission on significant program changes, resource reallocations among programs, proposed new programs, and program evaluation results.

VI. PROJECTED RESULTS

Q. PLEASE PROVIDE A PROJECTION OF THE RESULTS THAT THE COMPANY EXPECTS TO SEE FROM IMPLEMENTATION OF THIS PROGRAM.

A. The Company will update the Energy Efficiency Plan annually based on the performance of programs, market conditions, economics, consumer demand, and avoided costs. A projection of the results we expect and the associated revenue requirements of the Company's initial 4-year plan for South Carolina and North Carolina are summarized in the following table:

4-year Energy Efficiency Plan Projected Results (NC and SC)

	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Cumulative System MW	961	1214	1423	1865
Cumulative System MWh	180,000	380,000	552,000	743,000
SC Retail Revenue Requirements ($MM)	$24	$30	$36	$48

Q. CAN YOU GIVE AN EXAMPLE OF HOW THE COMPANY'S ENERGY EFFICIENCY PLAN MIGHT BENEFIT AN INDUSTRIAL CUSTOMER?

A. Yes. The Company has done an analysis of a manufacturer with (i) a 500,000 square foot plant, (ii) annual electric consumption of 34,560,000 kWh, (iii) a load factor of 80%, and (iv) an annual bill of $1,728,000. Based on this analysis, if

that industrial customer implements the energy efficiency measures recommended by the Company and participates in the Company's proposed Demand Response Program at a 60% Load Curtailment level, Duke Energy Carolinas projects that this manufacturer could see annual savings of $198,873 or 11% of its current annual bill. This savings estimate is net of the Rider EE (SC), which that customer will be paying.

Q. WOULD DUKE ENERGY CAROLINAS' ENERGY EFFICIENCY PLAN ALSO BENEFIT RESIDENTIAL CUSTOMERS?

A. Yes. While not as dramatic (in real dollar terms) or easy to estimate as the savings that will be available to industrial customers, the Company believes that residential customers who participate in its energy efficiency programs can experience real savings over their current bills, which are in addition to the savings that all customers will see as the Company saves watts and avoids adding new generation through more traditional methods.

VII. CONCLUSION

Q. WHY ARE DUKE ENERGY CAROLINAS' PROPOSED ENERGY EFFICIENCY PROGRAMS IN THE PUBLIC INTEREST?

A. Duke Energy Carolinas has heard from its customers and other stakeholders that there is a growing interest for South Carolina customers to have "green" options to lower their environmental footprint. The save-a-watt approach allows us to meet part of the increasing energy needs of South Carolina without building new generation facilities. There is no "greener" approach to meeting those needs. In addition, this approach also allows us to do the following:

- Lower bills for customers on average, compared to the bills that would result from additional generation resources;
- Offer the potential to substantially lower bills for customers who participate in energy efficiency programs; and
- Provide more options to help customers manage their bills in a rising energy price environment.

Q. WAS SCHULTZ EXHIBIT NO. 1 PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

PROGRAM DESCRIPTIONS

Residential Energy Assessments

Program: This program will assist residential customers in assessing their energy usage and will provide recommendations for more efficient use of energy in their homes. The program also will help identify those customers who could benefit most by investing in new energy efficiency measures, undertaking more energy efficient practices, and participating in Duke Energy Carolinas programs. The types of available energy assessments and energy efficiency products are as follows:

- Mail-in Analysis. The customer provides information about his/her home, number of occupants, equipment, and energy usage on a mailed energy profile survey, from which Duke Energy Carolinas will perform an energy use analysis and provide a Personalized Home Energy Report including specific energy saving recommendations.
- Online Analysis. The customer provides information about his/her home, number of occupants, energy usage and equipment through an online energy profile survey. Duke Energy Carolinas will provide an Online Home Energy Audit including specific energy saving recommendations.
- On-site Audit and Analysis. Duke Energy Carolinas will perform one on-site assessment of an owner-occupied home and its energy efficiency-related features during the life of this program.
- Low-Income Multi-Family Assessment Pilot. Duke Energy Carolinas will select property managers to coordinate communication and scheduling of property audits with tenants. Assessments will focus primarily on building envelope and HVAC.

Eligibility: Available to individually metered residential customers receiving concurrent service from the Company. On-site assessments are only available to owner-occupied single family residences.
For the pilot program, assessments are only available to customers in low-income multi-family complexes.

Customer Incentive: The assessment is free to the consumer. Participants receive either an energy efficiency kit or six-pack of compact fluorescent light bulbs ("CFLs") at the time of the audit to begin their energy savings immediately. For the multi-family pilot, customers will receive an energy efficiency kit and property managers will receive a report with findings and recommendations in the pilot program.

Marketing: Residential assessments may be marketed by several means, including but not limited to, direct-mail offers to customers, bill inserts, e-mail, and promotion on Duke Energy's Web site. The pilot program will be marketed to complexes selected by Duke Energy after consultation with State entities, such as the South Carolina Office of Economic Opportunity and Carolina Community Actions, Inc.

Delivery Organization(s): Vendors that will be chosen through a competitive bid process.

Smart $aver® for Residential Customers

Program: The Smart $aver® Program will provide incentives to residential customers who purchase energy efficient, ENERGY STAR® certified equipment. The program will start with two components – compact fluorescent light bulbs and high-efficiency HVAC equipment

Residential Compact Fluorescent Light Bulbs ("CFLs") Incentive Program

This program will provide market incentives to customers and market support to retailers to promote use of CFLs. Special incentives to buyers and in-store support will increase demand for the products, spur store participation, and increase availability of CFLs to customers. Part of this program is to educate customers on the advantages (functionality and savings) of CFLs so that they will continue to purchase these bulbs in the future when no direct incentive is available.

Eligibility: All Duke Energy Carolinas residential customers in the Company's South Carolina service area are eligible to participate in the program.

Customer Incentive: Customers may be offered coupons or a discounted price for the purchase of CFLs.

Marketing: Marketing support will include point-of-purchase displays and materials, cooperative advertising, coupons, special "instant sales events" as appropriate, promotion through Duke Energy Carolinas bills, promotion on the Company's Web site, direct mail, and media advertising to make customers aware of the program. These promotional materials will provide a means for the customer to make the discounted purchase and will provide Duke Energy Carolinas the information about who purchased the bulbs.

Delivery Organization(s): CFLs will be marketed and sold through major retailers and via the Web at online stores. Customers will receive incentive coupons via mass mailings or via our corporate Web site.

Residential Smart $aver® Air Conditioners and Heat Pumps Incentive Program

This program will provide incentives to customers, builders, and heating contractors (HVAC dealers) to promote the use of high-efficiency air conditioners and heat pumps with electronically commutated fan motors ("ECM"). The program is designed to increase the efficiency of HVAC systems in new homes and for replacements in existing homes.

Eligibility: New or existing owner-occupied residences, condominiums, and mobile homes served by Duke Energy Carolinas.

Customer Incentive: Incentives (rebates) will be paid to the builder (new homes) or for existing homes, part to the homeowner and part to the HVAC contractor. The rebate per HVAC unit is $300.00.

Marketing: This program will be promoted by targeted direct marketing offers to HVAC contractors and homeowners with aging equipment.

Delivery Organization(s): Energy efficient heat pumps and air conditioners will be sold and installed by qualified dealers.

Low Income Services

Program: The purpose of this program is to assist low income residential customers with energy efficiency measures to reduce energy usage through energy efficiency kits or through assistance in the cost of equipment or weatherization measures.

Eligibility: Weatherization and equipment assistance are available for up to 5000 existing, individually metered, single-family, owner-occupied all-electric residences, condominiums, or mobile homes served by Duke Energy Carolinas. Household income is at least 150%, but not more than 200% of the federal poverty level. Low income customers who fail to qualify based on income level are still eligible to receive an energy efficiency kit through participating assistance agencies.

Customer Incentive: For weatherization and equipment assistance, a home energy audit will be performed. Funds are available for weatherization measures and/or refrigerator replacement with an ENERGY STAR® appliance and/or heating system replacement with a 14 or greater SEER heat pump. Energy efficiency kits will be available through assistance agencies to other low income customers.

Marketing: Direct mail will be used to target customers for weatherization and equipment assistance. Customers will be directed to contact their local weatherization organization. For the energy efficiency kits, there will be no marketing. The kits will be provided by assistance agencies to their clients.

Delivery Organization(s): Installation of weatherization measures or equipment replacements may be installed through vendors that will be chosen through a competitive bid process and/or coordinated through local agencies that administer state weatherization programs and payments will be made to the agency on behalf of the customers.

Energy Efficiency Education Program for Schools

Program: The purpose of this program is to identify the current science/math curriculum standards where Duke Energy Carolinas' program might fit and the appropriate grades for successful implementation of an energy efficiency program. The program will look to educate students on energy efficiency and drive students to answer energy efficiency audit questions about their home and energy usage, to promote on-site school audits, and to compel students to install energy efficiency measures (*e.g.*, energy efficiency kits and compact fluorescent light bulbs ("CFLs").

Eligibility: This program is available to all K-12 students in public and private schools who are served by Duke Energy Carolinas.

Customer Incentive: Beyond the energy efficiency education, this program provides students the ability to perform an energy audit of their homes and the ability to assist in an energy assessment of their school. Each student who completes a home energy audit will receive a home energy efficiency measure (*e.g.*, package of 6 CLFs, an energy efficiency kit for the home).

Marketing: This program will be promoted through teacher education and general promotion in the education community.

Delivery Organization(s): The Company's current plan is to deliver this program through a vendor that will be chosen through a competitive bid process.

Power Manager

Program: Power Manager is a residential load control program. Participants receive billing credits during the billing months of July through October in exchange for allowing Duke Energy Carolinas the right to cycle their central air conditioning systems and to interrupt the central air conditioning when the Company has capacity problems.

Eligibility: Available to individually metered residential customers receiving concurrent service from the Company on Schedule RS, RE, or ES, who are not served under Rider SCG. Customers currently on Rider LC for air conditioning control will be migrated to Power Manager or allowed to opt out of Power Manager with appropriate notice. Rider LC will be cancelled.

Customer Incentive: For participation in the program, customers will receive bill credits of $8.00 per month for the summer billing months of July – October.

Marketing: Power Manager program information will be provided in bill inserts and on Duke Energy Carolinas' Web site, but the program will not be marketed actively until two-way communication is available.

Delivery Organization(s): Customers can sign up for the program by calling the Company's customer service representatives. Load control switches will then be installed by a third-party hired by Duke Energy Carolinas. Customers will be charged an installation fee.

Non-Residential Energy Assessments

Program: The purpose of this program is to assist non-residential customers in assessing their energy usage and providing recommendations for more efficient use of energy. The program will also help identify those customers who could benefit from other Duke Energy Carolinas Energy Efficiency non-residential programs.

The types of available energy assessments are as follows:

- Online Analysis. The customer provides information about their facility. Duke Energy Carolinas will provide a report including energy saving recommendations.

- Telephone Interview Analysis. The customer provides information to Duke Energy Carolinas through a telephone interview after which billing data, and if available, load profile data, will be analyzed. Duke Energy Carolinas will provide a detailed energy analysis report with an efficiency assessment along with recommendations for energy efficiency improvements. A 12-month usage history may be required to perform this analysis.

- On-site Audit and Analysis. For customers who have completed either an Online Analysis or a Telephone Interview Analysis, Duke Energy Carolinas will cover 50% of the costs of an on-site assessment. Duke Energy Carolinas will provide a detailed energy analysis report with an efficiency assessment along with recommendations, tailored to the customer's facility and operation, for energy efficiency improvements. The Company reserves the right to limit the number of off-site assessments for customers who have multiple facilities on the Duke Energy Carolinas system. Duke Energy Carolinas may provide additional engineering and analysis, if requested and the customer agrees to pay the full cost of the additional assessment.

Eligibility: Available to Duke Energy Carolinas served demand metered non-residential customers.

Customer Incentive: The customer's incentive is the subsidized cost of assessment work. Customers also will be presented with opportunities to participate in other Company energy efficiency programs as a result of the assessments.

Marketing: This program will be promoted primarily through three main channels – Duke Energy Carolinas' business relations managers, direct mail (letter), and online newsletter.

Delivery Organization(s): Assessments will be provided by Duke Energy Carolinas or a qualified third-party.

Smart $aver® for Non-Residential Customers

Program: The purpose of this program is to encourage the installation of high-efficiency, ENERGY STAR® certified, where applicable, equipment in new and existing non-residential establishments. The program will provide incentive payments to offset a portion of the higher cost of energy efficient equipment. The following types of equipment are eligible for incentives: high-efficiency lighting, high-efficiency HVAC equipment, high-efficiency motors, and high-efficiency pumps. Customer incentives may be paid for other high-efficiency equipment as determined by the Company to be evaluated on a case-by-case basis.

Eligibility: New or existing non-residential facilities served by Duke Energy Carolinas with prior approval from the Company.

Customer Incentive: Incentives are available for a percentage of the cost difference between standard equipment and higher efficiency equipment, up to 50%. The Company may vary the percentage incentive by type of equipment and differences in efficiency in order to provide the minimum incentive needed to drive customers to purchase higher efficiency equipment and to encourage additional improvements. Over the life of the program, incentives may be reduced as customers naturally move to purchase higher efficiency equipment. There will be a limit on the total amount of incentives available to an individual customer.

Marketing: This program will be marketed to specific segments of non-residential customers and market providers through direct marketing (e.g., mail, e-mail, bill inserts, Web site) and direct contact with market providers.

Delivery Organization(s): The incentive process will be handled by a third-party vendor.

PowerShare®

Program: PowerShare® is a non-residential curtailable program consisting of two options, a Mandatory Option and a Voluntary Option.

Mandatory Option customers will receive capacity credits monthly based on the amount of load they agree to curtail during utility-initiated events triggered by capacity problems. Customers enrolled in the Mandatory Option may also be enroll in the Voluntary Option and will be eligible to earn additional credits.

Voluntary Option customers will be notified of pending capacity problem or economic events and log on to a Web site to view a posted energy price for that particular event. Customers will then have the option to nominate load for the event and will be paid the posted energy credit for load curtailed.

Eligibility: Available, at the Company's option, to non-residential customers on Schedule G, GA, I, OPT. Only the Mandatory Option will be available, at the Company's option, to non-residential customers on HP. There will be a minimum and maximum amount of load for which the customer may contract to curtail. Customers currently on Rider IS and SG will be given a one-year period to decide if they wish to be migrated to PowerShare® or leave Rider IS or SG after which IS and SG will be cancelled.

Customer Incentive: Mandatory Option Customers will receive capacity credits $3.50 per kW for loads they agree to curtail during a utility-initiated event. For actual energy curtailed during an event, Mandatory Option Customers will receive a bill credit of $0.10 per kWh and Voluntary Option customers will receive a percentage of the Hourly Price quoted under the Company's "Hourly Pricing for Incremental Load" Schedule.

Marketing: PowerShare® may be marketed using various means including, but not limited to, direct mail offers to customers, bill inserts, e-mail, and promotion on the Company's Web site.

Delivery Organization(s): Duke Energy Carolinas will migrate customers from the previous Rider IS and Rider SG onto this program and may add other customers who wish to participate.

Efficiency Savings Plan (Pilot)

Program: This is a pilot research and development program designed to learn about and develop a financing structure that helps customers overcome up-front capital outlays for energy efficiency equipment financing. This program will allow residential and non-residential customers to install energy efficiency products with no up-front payment. The customer would pay for these products through a tariff charge on their Duke Energy Carolinas bill. The tariff would be a utility charge that would remain with the facility, not the customer.

Advanced Power Manager Program (Pilot)

Program: This is a pilot research and development program to evaluate new technologies, advanced metering, and new rate structures to study the feasibility of an energy management system that enables the new standard offer. This program would include three phases: (1) a technology trial to determine the operating characteristics of the equipment and prove its viability; (2) a customer trial to determine the appropriate offer structure that benefits customers and accomplishes program goals; and (3) a product roll-out, provided the technology and customer trials are successful. Additionally, this program will test demand response load aggregation concepts for non-residential customers. New offers and rate structures developed for this pilot will be filed with the Commission for approval.

BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 2007-358-E

In Re:	)	
	)	
Application of Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs	)	**CERTIFICATE OF SERVICE**

This is to certify that I, Leslie L. Allen, a legal assistant with the law firm of Robinson, McFadden & Moore, P.C., have this day caused to be served upon the person(s) named below the **Testimony of Theodore E. Schultz** in the foregoing matter by placing a copy of same in the United States Mail, postage prepaid, in an envelope addressed as follows:

Jeremy C. Hodges, Esquire
Nelson Mullins Riley & Scarborough, LLP
P.O. Box 11070
Columbia, SC 29211

Scott A. Elliott, Esquire
Elliott & Elliott, PA
721 Olive Avenue
Columbia, SC 29205

J. Blanding Holman, IV, Esquire
Southern Environmental Law Center
200 W. Franklin Street, Suite 330
Chapel Hill, NC 27516

Robert E. Tyson, Jr., Esquire
Sowell Gray Stepp & Laffitte, LLC
Post Office Box 11449
Columbia, SC 29211

Nanette S. Edwards, Esquire
Office of Regulatory Staff
Post Office Box 11263
Columbia, SC 29211

Dated at Columbia, South Carolina this 10th day of December, 2007.

Leslie L. Allen